CLAIMS

1.   A receiving apparatus to be used under a printing system including a printing apparatus and the receiving apparatus, said receiving apparatus comprising:

5   a reception unit operable to receive externally: (i) update data for updating a firmware of the printing apparatus; and (ii) a display content which includes a description indicating that the update data is to be printed;

          a display unit operable to display the display content;

10   a command obtainment unit operable to obtain a print command for the display content; and

          an output unit operable to output the update data as data to be printed, according to the description, when the command obtainment unit obtains the print command.

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2.   The receiving apparatus according to Claim 1,

          wherein the update data is data that is not to be displayed but to be printed only.

20   3.   The receiving apparatus according to Claim 1,

          wherein the output unit does not output the display content to the printing apparatus.

4.   The receiving apparatus according to Claim 1,

25   wherein the output unit outputs the update data to the printing apparatus via a removable storage medium.

5.   The receiving apparatus according to Claim 1,

          wherein the output unit outputs the update data to the

30   printing apparatus after confirming that a version of the firmware installed in the printer is not the latest.

6.   The receiving apparatus according to Claim 5,

wherein the output unit obtains, from the printing apparatus, information for specifying the version of the firmware installed in the printing apparatus, and confirms that the version of the firmware is not the latest, based on the obtained information.

7.   The receiving apparatus according to Claim 1,

wherein the update data is difference information indicating a difference between the firmware of an older version and the firmware of a present version, and

the output unit outputs the update data to the printing apparatus after linking the update data with the firmware of an older version.

8.   The receiving apparatus according to Claim 1,

wherein the reception unit further includes

a request unit operable to request a specified server to send, via a communication line, the update data and the display content, and receives, from the server via the communication line, the requested update data and display content.

9.   A receiving apparatus to be used under a printing system including a printing apparatus and the receiving apparatus, said receiving apparatus comprising:

a reception unit operable to receive externally: (i) print data which is not to be displayed; and (ii) update data for updating a firmware of the printing apparatus; and

an output unit operable to output the print data to the printing apparatus,

wherein the output unit outputs the update data as the print data.

10.   The receiving apparatus according to Claim 9,
wherein the reception unit further includes:

a display content reception unit operable to receive a display content which includes instruction information for urging a user to update the firmware of the printing apparatus; and

a display unit operable to display the instruction information, and

the output unit outputs the update data as the print data based on a print command inputted from the user according to the displayed instruction information.

11.   A receiving apparatus to be used under a printing system including a printing apparatus and the receiving apparatus, said receiving apparatus comprising:

a reception unit operable to receive: (i) update data for updating a firmware of the printing apparatus; and (ii) a display content which includes instruction information for urging a user to update the firmware;

a display unit operable to display the instruction information;

a command obtainment unit operable to obtain a command to update the firmware, sent from the user based on the displayed instruction information, as a print command for the update data; and

an output unit operable to output the update data to the printing apparatus when the print command is obtained.

12.   The receiving apparatus according to Claim 11,
wherein the output unit is a unit operable to send print data to the printing apparatus, and sends the update data as the print data.

13.   The receiving apparatus according to Claim 11,
wherein the display unit does not display the update data.

14.   A receiving apparatus to be used under a printing system including a printing apparatus and the receiving apparatus, said receiving apparatus comprising:

a reception unit operable to receive: (i) update data for updating a firmware of the printing apparatus; and (ii) a display content which includes a description indicating that the update data is to be printed and instruction information for urging a user to update the firmware of the printing apparatus;

a display unit operable to display the instruction information out of the display content;

a command reception unit operable to receive a print command;

a command obtainment unit operable to obtain a command to update the firmware, sent from the user based on the displayed instruction information, as a print command for the update data; and

an output unit operable to output print data to the printing apparatus when the print command is received by the command reception unit, and to output the update data to the printing apparatus based on the description when the print command is obtained by the command obtainment unit.

15.   A receiving apparatus to be used under a printing system including a printing apparatus and the receiving apparatus, said receiving apparatus comprising:

a reception unit operable to receive print data which is not to be displayed but to be printed only; and

an output unit operable to output the print data to the printing apparatus without displaying the print data, when receiving a print command for the print data,

wherein the reception unit receives update data for updating a firmware of the printing apparatus, as the print data, and

the output unit outputs, the update data, to the printing apparatus, as the print data, according to the print command.

16. A receiving apparatus to be used under a printing system including a printing apparatus and the receiving apparatus, said receiving apparatus comprising:

a reception unit operable to receive: (i) update data for updating a firmware of the printing apparatus; and (ii) a display content which includes instruction information for urging a user to update the firmware of the printing apparatus;

a display unit operable to display the instruction information; and

a command obtainment unit operable to obtain a command to update the firmware of the printing apparatus, sent from the user based on the displayed instruction information, as a print command for the update data.

17. A printing apparatus comprising:

an obtainment unit operable to obtain print data from a receiving apparatus;

a judgment unit operable to judge whether or not update data for updating a firmware of the printing apparatus is included in the obtained print data; and

an updating unit operable to update the firmware based on the update data when the judgment unit judges that the update data is included in the print data.

18. The printing apparatus according to Claim 17,

wherein the obtainment unit does not accept an input of another print data from the receiving apparatus while the updating unit updates the firmware based on the update data.

19.   The printing apparatus according to Claim 17,
        wherein the obtainment unit obtains the update data via a removable storage medium.

20.   The printing apparatus according to Claim 17,
        wherein the print data includes an identifier indicating whether or not the update data is included in the print data, and
        the judgment unit judges, based on the identifier, whether or not the update data is included in the print data.

21.   The printing apparatus according to Claim 17,
        wherein a file name for specifying a file which is either to be printed or to be updated for the update of the firmware is included in the print data, and
        the judgment unit judges whether or not the update data is included in the print data, based on the file name.

22.   The printing apparatus according to Claim 17,
        wherein the print data includes: a file name for specifying a file which is either to be printed or to be updated for the update of the firmware; and an identifier indicating whether or not the update data is included in the print data, and
        the judgment unit judges whether or not the update data is included in the print data, based on both the file name and the identifier.

23.   The printing apparatus according to Claim 17, further comprising
        a version information output unit operable to output information related to a version of the firmware.

24.   The printing apparatus according to Claim 17,

wherein the update data is difference information indicating a difference between the firmware of an older version and the firmware of a present version, and

the updating unit performs the update by linking the update

5   data and the firmware of an older version.

25.   A computer-readable storage medium in which a broadcast content is stored,

wherein the broadcast content includes: update data for

10   updating a firmware of a printing apparatus; and a display content which includes a description indicating that the update data is to be printed.

26.   The storage medium according to Claim 25,

15   wherein in the update data, an identifier is described, said identifier indicating that the update data is data for updating the firmware.

27.   The storage medium according to Claim 25,

20   wherein the update data is included in the broadcast content, as a data file whose name indicates that the update data is for updating the firmware.

28.   A server to be used under a firmware updating system

25   including a server that distributes a content, a receiving apparatus that receives the content from the server, and a printing apparatus that operates according to a firmware stored in a ROM and prints a print content inputted from the receiving apparatus, the server comprising:

30   a content generation unit operable to generate a content that includes a firmware update file, as a print content which is not to be displayed, said file being a file in which data for updating a firmware

of the printing apparatus is described; and

a content sending unit operable to send the generated content to the receiving apparatus.

29. A server to be used under a firmware updating system including a server that sends an e-mail, a receiving apparatus that receives the e-mail from the server, and a printing apparatus that operates according to a firmware stored in a ROM and prints print data inputted from the receiving apparatus, the server comprising:

an e-mail generation unit operable to generate an e-mail to which a firmware update file is attached as print data which is not to be displayed, said file being a file in which data for updating a firmware of the printing apparatus is described; and

an e-mail sending unit operable to send the generated e-mail to the receiving apparatus.

30. A firmware updating system comprising a server that distributes a content, a receiving apparatus that receives the content from the server, and a printing apparatus that operates according to a firmware stored in a ROM and prints a print content inputted from the receiving apparatus,

wherein the server includes:

a content generation unit operable to generate a content that includes a firmware update file, as a print content which is not to be displayed, said file being a file in which data for updating a firmware of the printing apparatus is described; and

a content sending unit operable to send the generated content to the receiving apparatus,

the receiving apparatus includes:

a content reception unit operable to receive the content from the receiving apparatus;

a print instruction obtainment unit operable to obtain, from a

user, an instruction to print a print content; and

a print output unit operable to output, to the printing apparatus, the print content included in the received content, without performing processing related to display, when the print
5   instruction is obtained, and

the printing apparatus includes:

a judgment unit operable to judge whether or not the print content outputted by the receiving apparatus is a firmware update file;
10 an updating unit operable to update the firmware using the print content, in the case where the print content is a firmware update file according to the judgment; and

a printing unit operable to print the print content in the case where the print content is not a firmware update file according to the
15 judgment.

31.   The firmware updating system according to Claim 30,

wherein the judgment unit searches for a firmware update command described in the print content, and judges said print
20 content as a firmware update file, in a case where the firmware update command is found.

32.   The firmware updating system according to Claim 30,

wherein the print output unit outputs, to the printing
25 apparatus, the print content together with a file name of said print content, and

the judgment unit judges the print content to be a firmware update file, in a case where the file name of the print content outputted by the receiving apparatus is a file name specified in
30 advance.

33.   The firmware updating system according to Claim 32,

wherein the judgment unit further has a confirmation unit operable to search for a firmware update command described in the print content, and confirm that said print content is a firmware update file, in a case where the firmware update command is found,
5   and

the updating unit updates the firmware using the print content, after the confirmation.

34.   The firmware updating system according to Claim 30,
10   wherein the receiving apparatus further includes

a content storage unit operable to store each received content in a specified area, and

the updating unit further includes a file obtainment unit operable to obtain, from the specified area in the content storage
15   unit, another firmware update file specified in the print content, and updates the firmware using data included in the obtained file.

35.   The firmware updating system according to Claim 30,
           wherein the printing apparatus further includes a firmware
20   storage unit having two ROMs, and operates according to a firmware stored in one ROM, and

the updating unit updates the firmware of the printing apparatus by storing a firmware whose version is updated in the other ROM.
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36.   A firmware updating method for a system including a server that distributes a content, a receiving apparatus that receives the content from the server, and a printing apparatus that operates according to a firmware stored in a ROM and prints a print content
30   inputted from the receiving apparatus, said method comprising: steps A to be executed by the server; steps B to be executed by the receiving apparatus; and steps C to be executed by the printing

apparatus,

wherein the steps A include:

a content generation step of generating a content that includes a firmware update file, as a print content which is not to be displayed, said file being a file in which data for updating a firmware of the printing apparatus is described; and

a content sending step of sending the generated content to the receiving apparatus,

the steps B include:

a content reception step of receiving the content from the receiving apparatus;

a print instruction obtainment step of obtaining, from a user, a print instruction for the print content; and

a print output step of outputting, to the printing apparatus, the print content included in the received content, without performing processing related to display, when the print instruction is obtained, and

the steps C include:

a judgment step of judging whether or not the print content outputted from the receiving apparatus is a firmware update file;

an updating step of updating the firmware using the print content, in the case where the print content is a firmware update file according to the judgment; and

a printing step of printing the print content in the case where the print content is not a firmware update file according to the judgment.

37. The firmware updating method according to Claim 36, wherein in the judgment step, a firmware update command described in the print content is searched for, and said print content is judged as a firmware update file in the case where the firmware update command is found.

38.   The firmware updating method according to Claim 36,

wherein in the print output step, the print content is outputted, to the printing apparatus, together with a file name of said print content, and

5   in the judgment step, the print content is judged as a firmware update file in the case where the file name of the print content outputted by the receiving apparatus is a file name specified in advance.

10   39.   The firmware updating method according to Claim 38,

wherein the judgment step further has a confirmation step of searching for a firmware update command described in the print content, and confirming that the print content is a firmware update file, in the case where the firmware update command is found, and

15   in the updating step, the firmware is updated using the print content, after the confirmation.

40.   The firmware updating method according to Claim 36,

wherein the steps B further include a content storage step of storing each received content in a specified area,

20   the updating step further has a file obtainment step of obtaining, from the specified area, another firmware update file specified in the print content, and

in the updating step, the firmware is updated using data

25   included in the obtained file.

41.   The firmware updating method according to Claim 36,

wherein the printing apparatus includes two ROMs and operates according to a firmware stored in one ROM, and

30   in the updating step, the firmware of the printing apparatus is updated by storing, in the other ROM, a firmware whose version is updated.

42.   A program for a server to be used under a firmware updating system including a server that distributes a content, a receiving apparatus that receives the content from the server, and a printing apparatus that operates according to a firmware stored in a ROM and prints a print content inputted from the receiving apparatus, the program causing a computer to execute:

a content generation step of generating a content that includes a firmware update file, as a print content which is not to be displayed, said file being a file in which data for updating a firmware of the printer is described; and

a content sending step of sending the generated content to the receiving apparatus.

43.   A program for a receiving apparatus to be used under a firmware updating system including a server that distributes a content, a receiving apparatus that receives the content from the server, and a printing apparatus that operates according to a firmware stored in a ROM and prints a print content inputted from the receiving apparatus, the program causing a computer to execute:

a content reception step of receiving the content from the receiving apparatus;

a print instruction obtainment step of obtaining, from a user, a print instruction for the print content; and

a print output step of outputting, to the printing apparatus, the print content included in the received content, without performing processing related to display, when the print instruction is obtained.

44.   A program for a printing apparatus to be used under a firmware updating system including a server that distributes a content, a receiving apparatus that receives the content from the

server, and a printing apparatus that operates according to a firmware stored in a ROM and prints a print content inputted from the receiving apparatus, the program causing a computer to execute:

5   a judgment step of judging whether or not the print content outputted by the receiving apparatus is a firmware update file;

an updating step of updating the firmware using the print content, in the case where the print content is a firmware update file according to the judgment; and

10   a printing step of printing the print content in the case where the print content is not a firmware update file according to the judgment.